

New claim 39 is supported by the specification, for example, at page 41, lines 27-30. New claims 40 and 41 are supported by the specification, for example, at page 23, line 26 to page 24, line 4. New claim 44 is supported by the specification, for example, at page 46, line 29 to page 47, line 20. New claim 45 is supported by the specification, for example, at page 51, lines 20-25. New claim 46 is supported by the specification, for example, at page 50, lines 8-17. New claims 47 and 48 are supported by the specification, for example, at page 50, lines 1-7 and 31-33 and page 51, lines 1-19. New claim 49 is supported by the specification, for example, at page 49, lines 10-25. New claim 50 is supported by the specification, for example, at page 52, lines 2-9. New claims 51 and 52 are supported by the specification, for example, at page 48, lines 5-17. No new matter is introduced by the amendments or by the new claims.

Restriction Requirement

The Examiner imposed a restriction requirement under 35 U.S.C. §121 based on an assertion of five distinct inventions within the claims. Applicants confirm the election of group I claims 1-14 with traverse. Claims 15-37 directed to non-elected claims in groups II, II and IV are canceled in view of the restriction requirement. With respect to Group V, Applicants believe that claim 38 can be examined along with Group I without any significant additional burden. In particular, Applicants note that these claims fall in the same classification. Applicants respectfully request examination of claim 38.

Drawings

The Examiner noted that informal drawings are acceptable for examination purposes only. Applicants submit formal drawings with this Amendment.

Furthermore, the Examiner objected to the drawings "because there is designated labeling of Fig. 3." Applicants unfortunately do not understand the basis for the Examiner's objection. Applicants respectfully request clarification of this objection.

Rejection Under 35 U.S.C. §102

The Examiner rejected claims 1, 2, 5-7 and 12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,096,561 to Tayi (the Tayi patent). The Examiner cited the Tayi patent for disclosing an apparatus and method for simultaneously performing a plurality of assays in a continuous assay system. Applicants have amended claim 1 to clarify the nature of the claimed invention. Applicants respectfully request reconsideration of the rejections based on the following comments.

The assays described in the Tayi patent involve the combination of reagents in containers. For example, see column 5, lines 26-32 and column 16, lines 1-41. The Tayi patent does not disclose the reaction of fluid reactants in a flowing stream. The amended claims clarify that the reactants are reacted within a flowing stream. Since the Tayi patent does not disclose a reaction within a flowing stream, the Tayi patent does not anticipate Applicants' claimed invention. Applicants respectfully request withdrawal of the rejection of claims 1, 2, 5-7 and 12 under 35 U.S.C. §102(e) as being anticipated by the Tayi patent.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 3, 4 and 14 under 35 U.S.C. §103(a) as being unpatentable over the Tayi patent. The Examiner asserts that it would be obvious to a person of ordinary skill in the art to vary the reactions conditions and to employ different nozzles. While Applicants do not necessarily agree with these positions, the shortcomings of the Tayi patent with respect to the amended claims make these points moot. Applicants respectfully request reconsideration of the rejection based on the following comments.

The Tayi patent does not teach, suggest or motivate the performance of a reaction within a flowing stream to form products that are subsequently collected from the flowing stream. In contrast, the Tayi patent discloses the performance of an assay within a reaction container, as noted above. Since the Tayi patent does not teach, suggest or motivate the

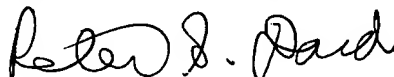
performance of a reaction within a reaction stream, the Tayi patent does not render the present claims obvious. Applicants respectfully request withdrawal of the rejection of claims 3, 4 and 14 under 35 U.S.C. §103(a) as being unpatentable over the Tayi patent.

CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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Application No. 09/557,696

ATTACHMENT
MARKED-UP AMENDMENT

Specification As Amended

At page 4, lines 5-17, the paragraph has been amended as follows:

In addition, the invention pertains to a method for obtaining a mixture of compositions. The method includes the reaction of a first quantity of fluid reactants to form a first quantity of product composition. The first quantity of product composition is collected using a collector. Following completion of the collection of the first quantity of product composition, a second quantity of fluid reactants are reacted to form a second quantity of product composition, the second quantity of product composition being materially different from the first quantity of product composition. The second quantity of product composition is collected using the collector.

At page 25, line 15 to page 26, line 2, the paragraph has been amended as follows:

Nozzle 124 can be used to deliver gaseous and or aerosol compositions into the reactant stream. Aerosols include small liquid or solid droplets generally, but not necessarily, with a carrier gas. In other words, as used herein, aerosols include mists of liquids with small droplets. Suitable aerosol generators can be produced, for example, with an ultrasonic nozzle, with an electrostatic spray system, with a pressure-flow or simplex atomizer, with an effervescent atomizer or with a gas atomizer where liquid is forced under significant pressure through a small orifice and fractured into particles by a colliding gas stream. Suitable ultrasonic nozzles can include piezoelectric transducers. Suitable atomizers for the production of uniform aerosols include a twin orifice internal mix atomizer, which are available from Spraying Systems (Wheaton, IL). Suitable aerosol generators are described further in copending and commonly assigned, U.S. Patent

Application Serial No. 09/188,670, now U.S. Patent 6,193,936 to Gardner et al., entitled "REACTANT DELIVERY APPARATUS," incorporated herein by reference.

At page 45, line 30 to page 46, line 6, the paragraph has been amended as follows:

In addition, tin oxide nanoparticles have been produced by laser pyrolysis, as described in copending and commonly assigned U.S. Patent Application Serial No. 09/042,227, now U.S. Patent 6,200,674 to Kumar et al., entitled "Tin Oxide Particles," incorporated herein by reference. The production of zinc oxide nanoparticles is described in copending and commonly assigned U.S. Patent Application Serial Number 09/266,202 to Reitz, entitled "Zinc Oxide Particles," incorporated herein by reference. In particular, the production of ZnO nanoparticles is described.

Claims As Amended

Please cancel claims 15-37 without prejudice or disclaimer.

1. (Amended) A method for obtaining a plurality of quantities of compositions with an apparatus comprising a plurality of collectors, the method comprising:

reacting a first quantity of fluid reactants within a fluid stream to form a first quantity of product composition;

collecting the first quantity of product composition from the fluid stream using a first collector;

following completion of the collection of the first quantity of product composition, reacting a second quantity of fluid reactants within the fluid stream to form a second quantity of product composition, the second quantity of product composition being materially different from the first quantity of product composition; and

collecting the second quantity of product composition from the fluid stream using a second collector.

New claims 39-52 have been added as follows:

39. (New) The method of claim 1 wherein the first quantity of product composition and the second quantity of product composition comprise solid particles.

40. (New) The method of claim 1 wherein the first quantity of product composition and the second quantity of product composition comprises a metal.

41. (New) The method of claim 1 wherein the first quantity of product composition and the second quantity of product composition comprises chemical powders selected from the group consisting of metal/metalloid oxides, metal/metalloid carbides, metal/metalloid nitrides, and metal/metalloid sulfides.

42. (New) The method of claim 1 wherein the first quantity of fluid reactants and the second quantity of fluid reactants comprise vapor reactants.

43. (New) The method of claim 1 wherein the first quantity of fluid reactants and the second quantity of fluid reactants comprise aerosol reactants.

44. (New) The method of claim 1 wherein first quantity of fluid reactants and the second quantity of fluid reactants comprise a metal/metalloid compound.

45. (New) The method of claim 12 wherein the evaluating the properties comprises evaluating the crystal structure by x-ray diffraction.

46. (New) The method of claim 12 wherein the evaluating the properties comprises evaluating particle size using dynamic light scattering.

47. (New) The method of claim 12 wherein the evaluating the properties comprises evaluation of the optical properties.

48. (New) The method of claim 47 wherein the optical properties are selected from the group consisting of emission, absorption, Raman scattering, fluorescence and combinations thereof.

49. (New) The method of claim 12 wherein the evaluating the properties comprises measurement of the electroactive properties.

50. (New) The method of claim 12 wherein the evaluating the properties comprises measurement of the electrical properties or magnetic properties.

51. (New) The method of claim 12 wherein the evaluating the properties is performed without removing the products from the collectors.

52. (New) The method of claim 12 wherein the evaluating the properties is performed after removing the products from the collectors.